CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)
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Project Number
J1024

Project Title
How Is the Amount of Light Transmitted into the Eye Affected by Increasing Amounts of Cataracts?

Abstract

Objectives/Goals
To show that as the amount of cataract formation increases the amount of light transmitted into the eye decreased

Methods/Materials
Go into a dardened room. Take a model of the human eye and measure and record axial and lenticular length. Layout and mark the positions of the light source.the lens and light meter. Place the light a fixed distance from the lens and meter. Vary the amount of cataract by darkening contact lenses with bio glo and food coloring. Use light meter to measure light transmitted through different levels of cataracts. Be sure the distances remain the same and carefully record the results.

Results
As expected when the amount of cataract formation increased the amount of light transmitted into the eye decreased.

Conclusions/Discussion
Variables such as internal reflection and light scattering have a negative affect on transmission into the eye but my experiement showed that as you increase cataract formation there is a dramatic decrease in light transmission.

Summary Statement
The amount of light transmission into an eye is directly affected by the degree of cataract formation.

Help Received
Dad helped with the models and checked the legnths before the data was collected.